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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,180	09/10/2003	Michael Chi Hung Wu	MERL-1497	7475

7590

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Patent Department
Mitsubishi Electric Research Laboratories, Inc.
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Cambridge, MA 02139

EXAMINER

GOKHALE, SAMEER K

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/659,180	WU ET AL.	
	Examiner	Art Unit	
	Sameer K. Gokhale	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 25-29 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 13-15, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 13 and 15, claim 13 states "in which the trajectory indicates a change in area size over time." There is no support in the specification to indicate how the trajectory indicates the change in area size over time.

Regarding claim 14, the claim states "in which the trajectory indicates a change in total signal intensity for each area over time". There is no support in the specification to indicate how the trajectory indicates a change in total signal intensity for each area over time."

Regarding claim 19, the claim states, "in which the bounding perimeter corresponds to a total signal intensity of the region touched." There is no support in the specification to indicate how the bounding perimeter corresponds to a total signal intensity of the region touched.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,3-9, 11-14, 16-18, 20, 21, 25, and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Westerman et al. (US 6,323,846) (hereafter, "Westerman").

Regarding claim 1, Westerman teaches a method for recognizing hand gestures, comprising: measuring an intensity of a signal at a plurality of touch sensitive pads of a touch sensitive surface (Fig. 13, see col. 18, where the plurality of pads are visible and different contact intensities are visible as well); determining a number of regions of contiguous pads touched simultaneously from the intensities of the signals (Fig. 13, regions 201 through 209); determining an area of each region from the intensities (Fig. 13, where each region represents an area); and selecting a particular gesture according to the number of regions touched and the area of each region (Fig. 15, see col. 18, lines 65-66, where the gesture recognized is the pen grip gesture based on the regions touched).

Regarding claim 3, Westerman teaches a method in which the regions are touched simultaneously by a single user (Fig. 13).

Regarding claim 4, Westerman teaches a method in which the regions are touched simultaneously by multiple users to indicate multiple gestures (Fig. 20A, see

col. 24, lines 8-11, where it is inherent that two users can use the device simultaneously if the device is capable of recognizing two hands on the device at the same time).

Regarding claims 5 and 6, Westerman teaches a method comprising determining a total signal intensity for each region in which the total signal intensity is related to an amount of pressure associated with the touching (see col. 14, lines 31-34, and see col. 21, lines 46-48, where the term proximity means the level of contact on a touch surface sensor and thus measuring a total proximity for a contact is the same as measuring a total signal intensity for each region).

Regarding claim 7, Westerman teaches a method in which the measuring is performed at a predetermined frame rate (see col. 18, lines 24-27, where it is inherent that there is a set frame rate because the term "scan" here is the same as a frame.

Regarding claim 8, Westerman teaches a method comprising displaying a bounding perimeter corresponding to each region touched (Fig. 41, see col. 55, lines 38-42, where a key layout for a virtual keyboard is displayed on the touch surface corresponding to where the user's fingers are, each key is a bounding perimeter to a region touched).

Regarding claim 9, Westerman teaches a method in which the perimeter is a rectangle (see col. 55, lines 38-42, where it is inherent that the key layout contains keys that are rectangular).

Regarding claim 11, Westerman teaches a method comprising determining a trajectory of each touched region over time (see col. 27, lines 41-43).

Regarding claim 12, Westerman teaches a method comprising classifying the gesture according to the trajectories. (Fig. 35, see col. 43, lines 5-17, where the trajectories determine that there is a contractive hand scaling gesture).

Regarding claim 13, Westerman teaches a method in which the trajectory indicates a change in area size over time (see col. 28, lines 36-42, where the device is updating the shape over time, which is the same as an update in area over time, and this update is tied in with the path of the shape, so it is indicated by the trajectory).

Regarding claim 14, Westerman teaches a method in which the trajectory indicates a change in total signal intensity over time. (see col. 19, lines 10-14, where the device is taking into account the changes in strength or weakness of the signal along the trajectory path).

Regarding claim 16, Westerman teaches a method comprising determining a speed of movement of each region from the trajectory (see col. 9, lines 26-29, where Westerman teaches tracking paths and then computing the velocities from those paths).

Regarding claim 17, Westerman teaches a method comprising determining a rate of change of speed of movement of each region. (see, col. 46, line 30-34, where determining the acceleration is the same as determinine the rate of change of speed movement).

Regarding claim 18, Westerman teaches a method in which the bounding perimeter corresponds to an area of region touched. (Fig. 41, see col. 55, lines 38-42, where the keys for the key layout are the bounding perimeter and they correspond to an area of region touched).

Regarding claim 20, Westerman teaches a method in which the particular gesture is selected from a group consisting of one finger, two fingers, more than two fingers, one hand and two hands (Fig.1, items 2,4,12, see col. 13, lines 4-10 and lines 33-39, where Westerman teaches a method of recognizing a user's simulated keyboard typing gestures, which means it recognizes gestures consisting of one finger, two fingers, more than two fingers, one hand and two hands).

Regarding claim 21, Westerman teaches a method in which the particular gesture is used to manipulate a document displayed on the touch sensitive surface (see col. 7, lines 29-34).

Regarding claim 25, Westerman teaches a method comprising displaying a document on the touch sensitive surface; defining a selection box on the document by pointing at the document with more than two fingers. (see col. 76, line 58-60, and see col. 73, lines 29-33, where a 'cut to clipboard' signal, which is the same as defining a selection box, is indicated by a pinching motion, and where such pinching motion is determined by the relative position of all fingers on the hand as they inherently point at the document.)

Regarding claim 27, Westerman teaches a method comprising determining a location of each region (see col. 26, lines 7-13).

Regarding claim 28, Westerman teaches a method in which the location is the center of the region. (see col. 26, lines 7-13, where the "proximity-weighted center" is the center of the region).

Regarding claim 29, Westerman teaches a method in which the location is a median of the intensities in the region. (see col. 26, lines 7-29, where the computation of the "proximity-weighted center" of a region is the same as finding the median).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westerman in view of Dietz et al. (US 6,498,590) (hereafter, "Dietz").

Westerman teaches the limitations of claim 1 as discussed above, and Westerman further teaches a method where the signal intensity measures a capacitive coupling between the pad and the user touching the pad (see col. 56, lines 37-39). However Westerman does not teach a method where each pad is an antenna.

However, Dietz does teach a user touch surface where each pad is an antenna (see col. 2, lines 58-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Dietz in the teaching of Westerman to have a touch surface where each pad was an antenna. The motivation to combine the teachings was to have a touch surface with pads that had the capability to transmit or receive a signal.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westerman in view of Shieh (US 6,067,079).

Westerman teaches the method of claim 8 as discussed above, however Westerman does not teach a perimeter that is a circle.

However, Shieh does teach a touch screen where the key buttons, which are bounding perimeters for a region touched, are circles (Fig. 2, item 215).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the button shape of Shieh in the touch surface keyboard of Westerman where the motivation to combine is to have a touch surface keyboard with buttons that have a shape more suited to that of a fingertip.

8. Claims 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westerman in view of Kuzunuki et al. (US 6,266,057) (hereafter, "Kuzunuki").

Regarding claim 22, Westerman teaches the limitations of claim 1 as discussed above, and Westerman further teaches displaying a document on the touch surface, however Westerman does not teach annotating the document with annotations using one finger while pointing at the document with two fingers.

However, Kuzunuki does teach annotating the document with annotations using one finger while pointing at the document with two fingers (Fig. 9A –9D, see col. 10, lines 54-58, where the user is pointing at the document with his right thumb and index

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finger in holding the document, and "swing" in his left thumb is what causes the page to to be opened).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the hand gesture of Kuzunuki in the touch surface of Westerman where the motivation to combine is to have a touch surface that recognizes a page turning hand gesture.

9. Regarding claim 26, Westerman teaches the limitations of claim 1 as discussed above, however Westerman does not teach a method further comprising: displaying a plurality of documents on the touch sensitive surface; gathering the plurality of documents into a display by placing two hands around the documents, and moving the two hands towards each other.

However, Kuzunuki does teach a method comprising: displaying a plurality of documents (Fig. 12A); gathering the plurality of documents into a display by placing two hands around the documents (Fig. 12A), and moving the two hands towards each other (Fig. 12B, see col. 12, lines 8-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the hand gestures of Kuzunuki in the touch surface of Westerman where the motivation to combine is to have a touch surface that recognizes hand gestures that pile documents together.

10. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westerman in view of Kusunuki, and further in view of Gerrissen et al. (US 5,319,747) (hereafter, "Gerrissen").

Westerman in view of Kusunuki teaches the limitations of claim 22 as discussed above, however Westerman does not teach a method comprising erasing the annotations by wiping an open hand back and forth across the annotations.

However, Gerrissen does teach a method comprising erasing an object by waving a flat hand over the object (see Fig. 3F, see col. 6, lines 13-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the hand gesture recognition of Gerrissen in the touch surface of Westerman where the motivation to combine is to have a touch surface that recognizes hand gestures that erase objects with a wipe of a hand.

Allowable Subject Matter

11. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Relative to claim 24, the major difference between the teaching of the prior art of record (Westerman, Kusunuki, and Gerrissen) and the instant invention is that said prior art does not teach "a method for displaying a circle to indicate an extent of the erasing" for the erasing procedure described in claim 23.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van Ruymbeke (US 6,380,930) teaches a touchpad with an integrated antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKG
January 20, 2006

Sameer Gokhale
Examiner
Art Unit 2673



JIMMY NGUYEN
PRIMARY EXAMINER